

Work Order ID 61805

Tuesday, September 07, 2010 10:44:31 AM

Page 1

Item ID: D2580-1

Accept

Revision ID:

Item Name: 205 Skidtube bent detail

Start Date: 9/7/2010 Start Qty: 2.00

Required Date: 9/9/2010 Req'd Qty: 2.00

Reference:

Approvals:

Process Plan: HDate: 10-9-07

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D2580

Rev D

100

0.00

HandFinish

Memo

0.00

Hand Finishing

1- Inspect mat'l D2500-1-190 for damage.

2- Chemical Conversion Coat as per QSI 005 4.1

101

QC3- Inspect Part Finish

0.00

QC

Memo

0.00

Quality Control

> DP 10-9-8 (2)

2 - BE 10/09/13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Page 2

Item ID: D2580-1

Accept



Setup Start



Revision ID:

Stop



Item Name: 205 Skidtube bent detail

Start Date: 9/7/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 9/9/2010 Req'd Qty: 2.00



Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

110

0.00



Skidtubes

Skidtubes

Memo

0.00

1-Drill pilot holes using drill jig DT 8149 (Do not use cutting fluid)

2-Open holes to 0.500" as per Dwg D2580 without cutting fluid

3-Deburr and blow out all chips from inside of tube

4-Bond web in place per QSI 015.

□□

A/R Sikaflex-291 batch: M115114 □□□

Sikaflex expire date: 11/01/30

Start time and date: 2:30 PM 10/09/13 BB

(X2) BB 10/09/13

(X2) BB 10/09/13

130

QC5- Inspect part completeness to step on W/O

0.00



QC

Quality Control

Memo

0.00

Sidors/14

(X2)

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Reference:

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start
Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140



Packaging

Packaging

Identify as per dwg & Stock Location: LG

0.00

Memo

0.00

150



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00



Cust Item ID:

Customer:



DP 10 9-14 (2)

10/09/15
mf
10-9-15

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Tuesday, September 07, 2010 10:44:36 AM

[illegible]

(b) (5) DPP, (b) (7)(C), (b) (7)(D)

Required Qty: 2.00

Comments: IPP B01.11.08 Revised Step 9, 10, 12, and 13 SM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2500-1-190 		Manufactured	No				Each	100.0000	1	2			
Ext'n -I' Beam Tube 4"													
				<u>Location</u>				<u>Loc Qty</u>		<u>Loc Code</u>			
				LG				100					
				52319				27					
				58427				73					
D2596 		Manufactured	No			110	Each	0.0000	1	2			
Web, 205 Skidtube													

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NOTE: Date & initial all entries

DART

DESIGN <i>[Signature]</i>	DRAWN BY <i>RH</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D2580	REV. D SHEET 1 OF 3
DATE 07.02.27		TITLE 205 SKIDTUBE ASSEMBLY	SCALE NTS
A	96.09.16	NEW ISSUE	
B	96.12.02	AS MANUFACTURED	
C	98.08.26	REDRAWN, INCLUDED DEO 9094/9097	
D	07.02.27	CHANGE TO SS WEARPLATES AND GASKETS, INCLUDE DEO 9124/9183	

RELEASED
07-06-28 *[Signature]*

QTY -041	QTY -045	Part Number	Description
X		D2580-041	SKIDTUBE ASSEMBLY
	X	D2580-045	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
1	1	D2576-3	STEP
20	24	D2579	CROSS BOLT SPACER
16	16	D2594-1	PLUG
16	16	D2594-3	O-RING
1	1	D2596	205 WEB
1	1	D2855	AFT CAP
1	1	D3564-5	WEARSHOE
1	1	D3564-9	WEARSHOE
1	1	D3564-11	WEARSHOE
1	1	D3564-13	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1	1	D3566-13	GASKET
50	50	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or AELS-1032-130	INSERT
50	50	AN3C4A	BOLT
2	2	AN3-5A	BOLT
50	50	AN960C10L	WASHER
2	2	AN960JD10L	WASHER

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 2) ALL DIMENSIONS ARE IN INCHES
- 3) INSERT D2596 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) USE DART DRILL TEMPLATE TD2577-205 TO LOCATE AND DRILL $\varnothing 0.297$ HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION D-D (50 PLACES) AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/-291.
- 6) WELDING TO BE DONE PER DART QSI 004.
- 7) FINISH:
SEE NOTES ON
PAGE 2 FOR D2580-041 AND
PAGE 3 FOR D2580-045
- 8) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (16 PLACES).

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WITHOUT NOTICE

WORK ORDER

NO. 61805

D/A-907

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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RELEASED
07-06-28-11

Diagram illustrating the grinding locations for the D2576-3 step. The diagram shows a cross-section of the step with the following labels:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- GRIND FLUSH
- LOCATION RIDGE ON UNDERSIDE OF D2576
- $\frac{1}{4}$

Diagram illustrating the components of a wheel assembly and the inspection steps:

- D2579 SPACER
- D2596 WEB (REF)
- ALS7-1032-130 (REF) (TYP 50 PLACES)
- AFTER PERFORM:
 1. CHA
 2. INSU
 3. WEL
 4. C'B

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB POWDER COAT ASSEMBLY GLOSS WHITE (REF. 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

37.50
DISTANCE TO AFT END
OF D2596 WEB
3 7
1.750 1.750
#0.508 (TYP.)
(40 PLACES)
REFER TO DETAIL A
8.750
17.375
26.000
34.188
57.313 (REF)
7 EQUAL SPACES
8.188 PITCH
38.0 91.500
190.0
(D2500-1)

Figure 1 is an elevation view of the bridge deck. It shows a horizontal line representing the deck with a slight upward curve at the right end. A hole is located on the left side of the deck. The distance between the hole and the tangent point is labeled as 1.0. The total length of the bridge deck is labeled as 32.0 ± 1.0. The hole diameter is labeled as ø0.640. There are two markers labeled '4' on the deck. A dimension of 13.4 is shown from the left edge to the hole. A dimension of 20.0 is shown from the hole to the tangent point. A dimension of 1.4 is shown from the left edge to the start of the curve. A dimension of 11 is shown from the tangent point to the right edge.

WELD AS PER DETAIL B

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

0.5 1.5 1.5 D

8

P P P P P P P

REFER TO DETAIL C

D3566-1 D3566-5 D3566-1 D3566-13

D3564-11 D3564-5 D3564-9 D3564-13

AN3CA BOLT (1)
AN960C10L WASHER (1)
(50 PLACES)

DESIGN JJ DRAWN BY

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1	DATE	11/11/2011
2	DRAWN BY	11/11/2011
3	CHECKED BY	11/11/2011
4	APPROVED BY	11/11/2011
5	REVISION	11/11/2011

APPROVED

DART

DART AEROSPACE LTD.
HAWKESBURY, ONTARIO, CANADA

REV. D

SHEET 2 OF 3

SCALE

205 SKIDTUBE ASSEMBLY

1:24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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RELEASED
07 Dec 28

Diagram illustrating the grinding locations on a propeller cross-section:

- GRIND FLUSH (4 PLACES)
- GRIND FLUSH
- D2576-3 STEP
- LOCATION RIDGE ON UNDERSIDE OF D2576
- GRIND FLUSH

Diagram illustrating the rear view of the cap assembly. The diagram shows the cap with the bolt and washer installed. The following components and dimensions are labeled:

- DRILL PRIOR TO D2855 CAP INSTALLATION (2 PLACES)
- SEAL WITH SIKAFLEX-241/-291
- AN3-SA BOLT (1)
- AN960JD10L WASHER (1)
- D2855 CAP
- SEE NOTE ii)
- 0.40

Diagram illustrating the components of a propeller hub cross-section:

- D2579 SPACER
- D2596 WEB (REF)
- ALST-1032-130 (REF) (TYP 50 PLACES)
- AFTER PERFOR
- 1. CHA
- 2. INS
- 3. WEL
- 4. C'B

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:

1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (20 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C'BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

i) FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2596 WEB
POWDER COAT ENTIRE ASSEMBLY GREEN (REF. 4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4

ii) IT IS ACCEPTABLE TO GRIND A RELIEF IN THE D2855 AFT CAP TO PREVENT INTERFERENCE
WITH THE SPACER AT THIS LOCATION

37.50
DISTANCE TO AFT END
OF D2596 WEB

3
7

1.750 1.750

Ø0.508 (TYP.)
(40 PLACES)

REFER TO DETAIL E

REFER TO DETAIL A

8.750
17.375
26.000
34.188

57.313 (REF)
7 EQUAL SPACES
8.188 PITCH

38.0 91.500 190.0
(D2500-1)

(MAKE FROM D2580-1 DRILLING DETAIL)

51.340

39.580

5.915

Ø0.508
(8 PLACES)

Ø0.640

20.0

1.4

5.985

5.338
(REF)

3.630
(REF)

1.0 DISTANCE BETWEEN HOLE AND TANGENT POINT

1.0 DISTANCE BETWEEN HOLE AND TANGENT POINT

32.0 ± 1.0

13.4

4

4

D3560-V49 ASSEMBLY DETAIL

WELD AS PER DETAIL F

BLACK ANTI-SKID TO 0.5 ABOVE LOCATION RIDGE

BLACK ANTI-SKID TOP OF STEP TO 0.5 ABOVE BOTTOM EDGE

REFER TO DETAIL G

NO C'BORE NO PLUG

0.5

1.5

1.5

H

P P P P P P P P

H

8

1.5

1.5

1.5

NO C'BORE NO PLUG

D3566-1

D3566-5

D3566-1

D3566-13

D3564-11

D3564-5

D3564-9


D3564-13

AN3C4A BOLT (1)

AN960C10L WASHER (1)

(50 PLACES)

DESIGN	DRAWN BY	
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		DATE 07.02.27	TITLE 205 SKIDTUBE ASSEMBLY	SCALE 1:24		

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